Early Journal Content on JSTOR, Free to Anyone in the World

This article is one of nearly 500,000 scholarly works digitized and made freely available to everyone in the world by JSTOR.

Known as the Early Journal Content, this set of works include research articles, news, letters, and other writings published in more than 200 of the oldest leading academic journals. The works date from the mid-seventeenth to the early twentieth centuries.

We encourage people to read and share the Early Journal Content openly and to tell others that this resource exists. People may post this content online or redistribute in any way for non-commercial purposes.

Read more about Early Journal Content at http://about.jstor.org/participate-jstor/individuals/early-journal-content.

JSTOR is a digital library of academic journals, books, and primary source objects. JSTOR helps people discover, use, and build upon a wide range of content through a powerful research and teaching platform, and preserves this content for future generations. JSTOR is part of ITHAKA, a not-for-profit organization that also includes Ithaka S+R and Portico. For more information about JSTOR, please contact support@jstor.org.

BOOK REVIEWS.

EDITED BY W. H. BUSSEY, University of Minnesota.

The Madison Colloquium Lectures on Mathematics. BY LEONARD EUGENE DICKSON and WILLIAM FOGG OSGOOD. Published by the American Mathematical Society, 501 West 116th St., New York, 1914. 230 pages.

The seventh colloquium of the American Mathematical Society was held in connection with the twentieth summer meeting at the University of Wisconsin during the week of September 8–13, 1913. Professor W. F. Osgood, of Harvard University, gave five lectures on "Topics in the theory of functions of several complex variables," and Professor L. E. Dickson, of the University of Chicago, gave five lectures on "Invariants and the theory of numbers." These lectures have been published by the society as Volume IV of its series of colloquium lectures. The price of the book is $2.00; to members of the society, $1.50. The first three volumes of the series are as follows: I, The Boston Colloquium, 1903. II, The New Haven Colloquium, 1906. III, The Princeton Colloquium, 1909. Before the society became a national organization, a colloquium was held at Evanston, Illinois, in 1893. Professor Klein of Göttingen was the sole speaker. The first edition of this colloquium was exhausted, and a second edition was published by the society under the title: The Evanston Colloquium Lectures on Mathematics. The society held a colloquium at Buffalo in 1896, one at Cambridge in 1898, and one at Ithaca in 1901. The society did not publish the lectures delivered at these colloquia.

W. H. BUSSEY.

Archimedes' Werke. Mit modernen Bezeichnungen herausgegeben und mit einer Einleitung versehen von SIR THOMAS L. HEATH. Deutsch von DR. FRITZ KLIEM. O. Häring, Berlin, 1914.

No greater tribute could be paid to the excellence of the English translation of the works of Archimedes, as made by Heath, than the fact that a German scholar should take this edition as the basis for a retranslation into German. This, too, is the more surprising in view of Heiberg's new and revised Greek and Latin edition of Archimedes' works which is in course of publication, two of the three projected volumes having already appeared. Heiberg's text makes full use of the many additions to our knowledge of Archimedes which have been made in the thirty-odd years since the publication by him of the critical text with Latin translation; seventeen years have elapsed since Heath's work appeared.

Fortunately the German edition has received the careful attention both of Heath and Kliem so that the additions of recent times are incorporated. Thus the newly discovered work of Archimedes, *The Method of Archimedes, concerning theorems (proved by) mechanics—to Eratosthenes,* is incorporated in this volume, based upon the translation published by Heath in 1912 as a supplement to his earlier work. This treatise was found by Heiberg in a manuscript of the tenth century, a palimpsest, now in the Metochion at Constantinople but formerly from the monastery of the Holy Grave at Jerusalem. This treatise should be familiar to every teacher of elementary mathematics for it gives us clear insight into the methods of work of the greatest mathematician of antiquity. The theorems of the *Method* are entirely within the grasp of any who have studied analytic geometry. The quadrature of a segment of a parabola and the determination of the volume and surface of a sphere are included in the discussion. Besides the translation published by Heath, an English translation is available in the *Monist* for 1909,[1] a German translation in the *Bibliotheca Mathematica,* Vol. 7, third series, pp. 321–363, 1907, and a French description in the *Revue générale des Sciences,* 1907, as well as the more critical Greek edition for philologists in *Hermes,* 1907, Vol. 42, pp. 235–297. How easily an important work may be lost without any trace of it in literature is evident from this treatise which was formerly known only through a chance reference by Suidas to a commentary on it by Theodosius, and the citation by Heron of three of the theorems (and this latter reference first appeared in print in 1903).

Fragments of the *Stomachion* by Archimedes are also preserved in the Constantinople papyrus. Dr. Kliem has added to his valuable work not only these brief passages on this ancient puzzle but also the more complete information preserved in an Arabic translation and published by Suter in Vol. IX of the *Abhandlungen zur Geschichte der Mathematik.* In this geometrical puzzle some fourteen ivory pieces which fit together to make a square are to be arranged in different ways so as to represent a ship, a sword, and other objects. The name of Archimedes has long been associated with this game but only recently has the definite evidence been obtained showing that the great genius of the Greek world did not disdain mathematical puzzles.

This work can be heartily recommended to all students of mathematics, for Dr. Kliem has made available in one volume the works of Archimedes which have come down to us. The book is also a fine specimen of the printer's art. Of corrections necessary I have noted only on page 429, line 14, reference to "Satz 8," instead of "Satz 9."

LOUIS C. KARPINSKI.

Elementary Theory of Equations. By L. E. DICKSON. John Wiley and Sons, New York, 1914. v+184 pages. $1.75.

This book occupies a middle ground in difficulty, being too advanced for the average freshman, but still of an elementary character, suitable for a second course in the theory of equations. It is such a book as may be read with profit by any one who wants an *exact* statement and rigorous proof of the elementary theorems —not involving group-theory or invariants—concerning algebraic equations; a work of value to all teachers of algebra, whether elementary or advanced. In particular every teacher of algebra should read the proof of the fundamental theorem of algebra and the work on graphing; while every teacher of geometry, should read the proofs given in Chap. VIII relating to the trisection of an angle

---

[1] Republished in pamphlet form by the Open Court Publishing Company.